2010

674-01 Database Management

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Xavier University

INFO 674: Database Management
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Instructor

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Mission of the Williams College of Business

"We educate students of business, enabling them to improve organizations and society, consistent with the Jesuit tradition".

Course Description and Objectives

Among other things, the proliferation of electronic commerce has helped create unprecedented amounts of data. Databases are at the core of most information-based systems with which we interact in our daily lives and help keep track of myriad of details of every transaction that takes place in a business. Database management requires multiple perspectives: understanding an organization as a social system and understanding of database technology.

This course is designed for the graduate student who has no prior experience in database systems and it covers the fundamentals of database systems as well as emerging technologies that are likely to play a strategic role in business organizations. Topics include the role of data management systems, data modeling, design, implementation and analysis of relational databases. These topics will be explored from the perspective of both a user and manager of database technologies.

Students will gain experience with data modeling and Structured Query Language (SQL). The course will cover basic data modeling and SQL concepts. The concepts learnt over the term will enable students to design, implement and analyze a prototype database using a relational database system. The goal is to experience the database development life cycle and explore issues relevant to managing corporate data resources. The course will also cover trends in managing organizational memory technologies such as business intelligence.

Upon successfully completing INFO 674, you should be able to
1. Understand the organizational issues involved in data management;
2. Develop a valid data model for a business system of medium complexity;
3. Build and use a relational database;
4. Formulate a wide range of relational database queries;
5. Be familiar with the principles of managing organizational data;
6. Be familiar with the design principles and technology used to manage and exploit organizational intelligence;

These objectives are met through a combination of class lectures, readings, lab sessions, outside speakers, two projects, and hands-on exercises.

Course Prerequisites & Required Skills

There are no formal prerequisites for this course. However, I assume you are computer literate. This means you know computer history, computer technology, and some business applications. You are familiar and competent in using IBM PC-compatible computers, the Windows Operating System and the World Wide Web. These prerequisite topics, and others, will be assumed by the instructor, since you are registered in this course.

I will NOT assume that you are familiar with any database management system. We will start at the very beginning and learn the use of a basic database management system package (i.e., Microsoft Access). This will help us focus on learning basic data management concepts using a basic database management package. We may explore other packages given the availability of other reliable database platforms.

Course resources

Text Book:

1. Watson, Richard. Data Management: Databases and Organizations, Fifth Edition. Wiley, New York, 2006. (ISBN: 0-471-71536-0) - Required

Teradata Student Network:
The class may use resources on the Teradata Student Network. Please register on TSN. Its URL is http://www.teradatastudentnetwork.com. The password to access materials is SmartDecisions (Please note that the password is not case sensitive).

Course Grading

Student performance will be evaluated on the following basis:

Class Participation	10%
Database Team Project I	20%
Database Team Project II	20%
Exams	50%
	100%

IMPORTANT NOTE: You **MUST** score at least 60% on combined score for the exams in order for the group work points to count toward your final grade. In other words, the group work cannot help you pass the course if you have a failing grade on the exam work.

Class Participation:
Students are expected to attend all class sessions on time. Class attendance should be given priority over other activities. If you plan to be absent for more than 2 class sessions please drop the course as your overall course grade will be reduced by a letter grade. All students are

expected to be present in class on time. Late attendance will count as a partial absence. "A" students must attend all classes and actively provide thoughtful, relevant comments to class discussions and class exercises. ***Please note:*** *Using computers or laptops, mobile phone for personal use (e.g., email) will be grounds for reduction of your overall participation grade (Sometimes all the way to zero).*

Team Projects:

There will be **two (2)** group assignments.

- Each team must have 3-4 members. Each team will be required to define, elect or volunteer a team leader as the point of contact for the team.
- Most of you will work effectively in teams, each contributing your best effort and proving to be a reliable, productive team member. However, because past experience has proven that team projects always raise the possibility that some team members may not carry their fair share of the load, a confidential peer evaluation will be conducted at the end of the semester. This evaluation will impact your grade.

Exams and Team Project Deliverables:
There will be three exams during the course of the semester. All students must take them at the scheduled times except for emergencies. Deliverables of assignments/project milestones are due at the start of class on the due date; your project grade will suffer significantly if a deliverable is not on time (i.e., 20% reduced for each day late). Your grade on the database team project will be based on the quality of the deliverables your team produces.

General Course Philosophies & Policies

The learning environment:
Please turn off your cell phone, PDA, or another gadget that may produce sound while class is in session. Laptop use during class sessions for any personal work (e.g., email, messaging, etc…) is NOT permitted.

Academic honesty:
Academic dishonesty, in any form, is a serious offense. The University Rules and other documented policies of the department, college, and university related academic integrity will be enforced. Any violation of these regulations, including acts of plagiarism or cheating, will be dealt with on an individual basis according to the severity of the misconduct.

Special needs:
If you have any special needs related to your participation in this course that may influence your performance in this course you should meet with the instructor to arrange reasonable provisions to ensure an equitable opportunity to meet all the requirements of this course.

Evaluation:
The final grade awarded will be based on the percentage of the total points awarded as follows:

Scale			
A	94-100		
A-	90-93		
B+	87-89	C+	77-79

B	83-86	C	70-76
B-	80-82	F	Below 70

Grading:
Every effort will be made to return papers, exams, etc…within one week of submission.

Grade appeals:
If you have a concern about a grade that you receive in this class, you are invited to submit to me a written appeal within one week of receiving the grade in question. The appeal should outline your specific concerns with the grade and provide evidence supporting why the grade should be changed. I will then review your appeal and respond as quickly as possible. I reserve the right to re-grade the entire exam, assignment or project milestone in question.

Communication:
Email is the best way to communicate with me. I will answer emails within 24 hours of receipt. I expect the same courtesy from you. Email will be a very important mode of communication in this class as we meet only once a week. Also make sure to check blackboard announcements on a regular basis for updates or additional course material.

Please note that I will often have extended office hours to help with SQL and data modeling. It is also possible that official emergencies may require me to change office hours. Please check blackboard for changes in office hours before coming to see me for office hours. Also, please note that in addition to office hours, given adequate notice (a few hours), I can often come to campus to help you with course work.

Teaching Style
The instructional style will primarily consist of lectures based on the text. The lectures are designed to be interactive. Classroom participation is expected and is therefore highly encouraged. Please feel free to ask questions, make observations, and share your relevant real world experiences. It is my intention to make the classroom environment rather informal and relaxed. If you are unsure about a topic PLEASE ASK QUESTIONS. If no one is asking questions, I can only assume that everyone understands the material.

Attendance
I expect you to attend class regularly, in accordance with university policy. You are responsible for any material covered, amendments to the syllabus, or announcements made in class, whether you are present or not.

In Class / Homework Assignments
In class/homework assignments are to be done individually. You do NOT need to hand in a hard copy of the assignment unless specified by the instructor in class. I expect that each member of the class will have worked through each assignment. The purpose of the assignments is to reinforce the topics covered in the lecture and to provide you the opportunity to apply that knowledge. I will usually go over the assignment on the class day following the lecture on the necessary material. Thus, I do not expect that you will be able to work through each of the problems on the first attempt. If you have attempted each of the problems before class, then you should have ample opportunity during class to take any necessary notes. However, I will NOT hand out a solution manual for these problems as we will have worked each of them in class.

Each of the assignments will be handed out in class or can be downloaded from the Blackboard. Please let me know in a timely fashion if you have any difficulty downloading the

homework. In addition, please note that some of these exercises are quite difficult and may take a while to complete.